

## PATENT SPECIFICATION



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## COMPLETE SPECIFICATION

## Improvements in and relating to Spinning Boxes

We, AMERICAN VISCOSE CORPORATION, a Corporation organised under the laws of the State of Delaware, United States of America, of Wilmington, Delaware, United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

10 This invention relates to improvements in spinning boxes used in the production of rayon and more particularly to improvements in means for removing a rayon cake from a spinning box.

15 It has already been proposed to provide a spinning box or bucket with a removable false bottom for removing the cake which forms in the bucket, and to provide a lifting device for removing the false bottom. The lifting device may comprise a handle, a shaft and a hook shaped end for engagement in a slot in the false bottom. Alternatively the lifting device may have three arms for engagement in 25 corresponding slots in the false bottom, or it may carry at its lower end a rubber suction cup which may be pressed against the false bottom until a suction is formed in the cup.

30 It is the object of this invention to provide means for removing a cake of yarn or the like from a spinning box wherein there is less liability of damage to the cake than in the means hitherto known.

35 According to this invention means for facilitating the removal of a cake of yarn or the like from a spinning box comprise a bottom member adapted to fit closely against the inner walls at the bottom of 40 the spinning box before the commencement of the formation of the cake, said bottom member having an upright undercut portion substantially at its centre, and a tool having gripping members adapted 45 to engage said undercut portion for the purpose of removing the bottom member from the spinning box together with the cake after the latter has been formed, said upright portion having a convex or 50 tapered surface adapted to guide the gripping members on the tool into engagement with the undercut portion.

In the accompanying drawing is shown a view with parts in section of a preferred 55 embodiment of the invention, although

the invention is not limited to the particular embodiment shown.

Referring to the drawing, 1 indicates a spinning box having a rim portion 2 adjacent its open end. The box is provided with a closely fitting removable bottom member 3. The bottom member has a depressed central portion 4 in the centre of which is positioned an upright portion 5. The upright portion is undercut forming a ledge 6 which may be gripped by a tool generally indicated by reference character 7. The upper portion 8 of the upright is tapered or convex. The tool for removing the bottom member comprises a handle portion 9 to which are secured gripping members 10. The gripping members are actuated by a disc 11 carried by a plunger 12 which extends through the handle and which is mounted to slide on the gripping members. The tool is provided with a disc-like guiding means 13 positioned below the handle which guiding means is slightly smaller than the inside diameter of the open end of the spinning box.

In the operation of the device a rayon cake is spun with the removable bottom member in the spinning box. When it is desired to remove the cake the cover of the box is removed and the tool is inserted. The guide member below the handle is guided by the walls of the box to centre the tool. The tapered or convex portion of the upright guides the gripping members so that by pressing down on the tool the gripping members pass over the top of the upright and engage the ledge. By depressing the plunger through the handle the gripping members tightly engage the upright so that the cake and the bottom member may be lifted out of the box. The guiding means on the tool and the upright enable the upright to be quickly gripped by the tool and prevent damage to the rayon cake. With this device it is not necessary to remove the spinning box from the spindle in order to remove the cake. The device can also be readily used where the spinning box is set back from the working face of the machine.

While a preferred embodiment of the invention has been shown, it is to be understood that changes and variations may be made without departing from the

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spirit and scope of the invention as defined by the appended claims.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Means for facilitating the removal of a cake of yarn or the like from a spinning box comprising a bottom member adapted to fit closely against the inner walls at the bottom of the spinning box before the commencement of the formation of the cake, said bottom member having an upright undercut portion substantially at its centre, and a tool having gripping members adapted to engage said undercut portion for the purpose of removing the bottom member from the spinning box together with the cake after the latter has been formed, said upright portion having a convex or tapered surface adapted to guide the gripping members on the

tool into engagement with the undercut portion.

2. Means as claimed in claim 1 wherein the tool comprises a handle carrying the gripping members and means including a plunger passing through the handle for causing the gripping members to close together.

3. Means as claimed in claim 1 or 2 wherein the tool is provided above the gripping members with a disc adapted to fit inside the spinning box so as to guide the gripping members into engagement with the upright portion.

4. Means for facilitating the removal of a cake of yarn or the like from a spinning box substantially as herein described with reference to the accompanying drawing.

Dated this 11th day of November, 1941.

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[This Drawing is a reproduction of the Original on a reduced scale.]

